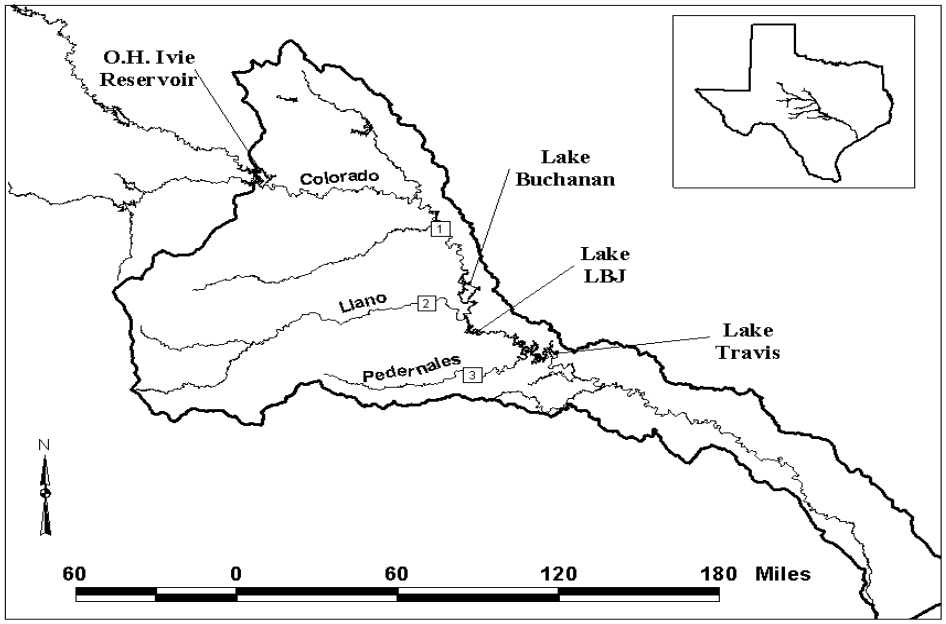
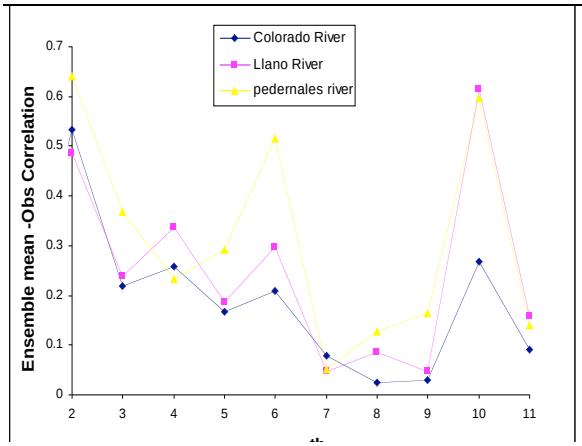
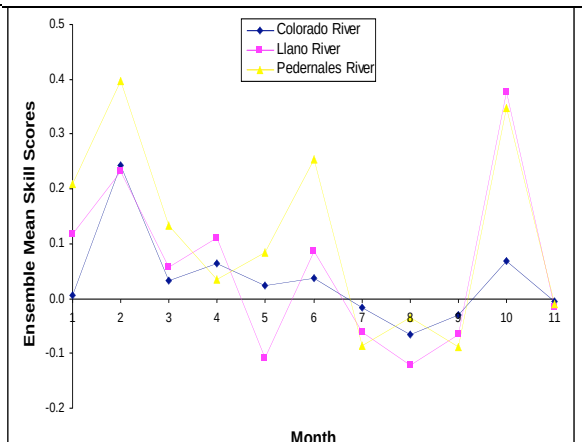


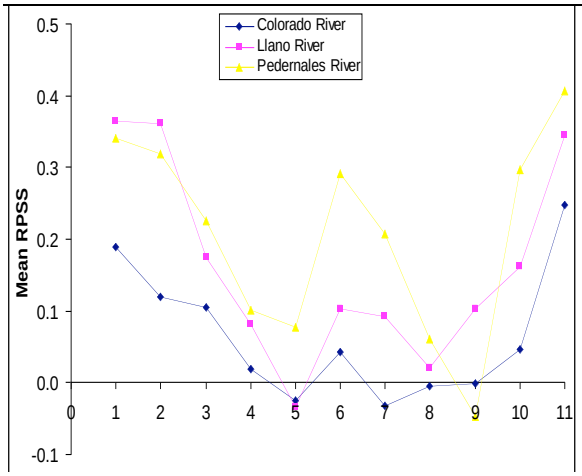
Figure 1. USGS streamgage locations: the Colorado River near San Saba (1), the Llano River at Llano (2), and the Pedernales River near Johnson City (3).



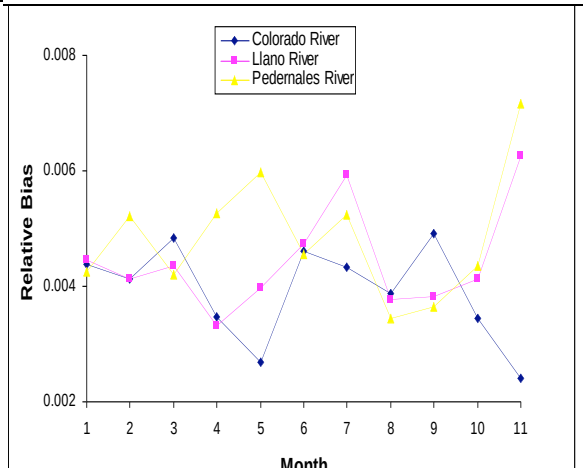
a) Lag-1 flow correlation.



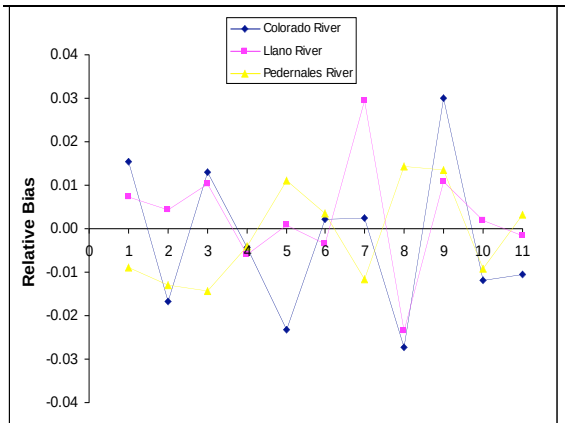
b) Ensemble mean skill score.



c) Mean *RPSS*.



d) *RMSrel* as a measure of reliability.



e) Relative bias.

Figure 2. Month-to-month forecast verification statistics based on hydrologic persistence.

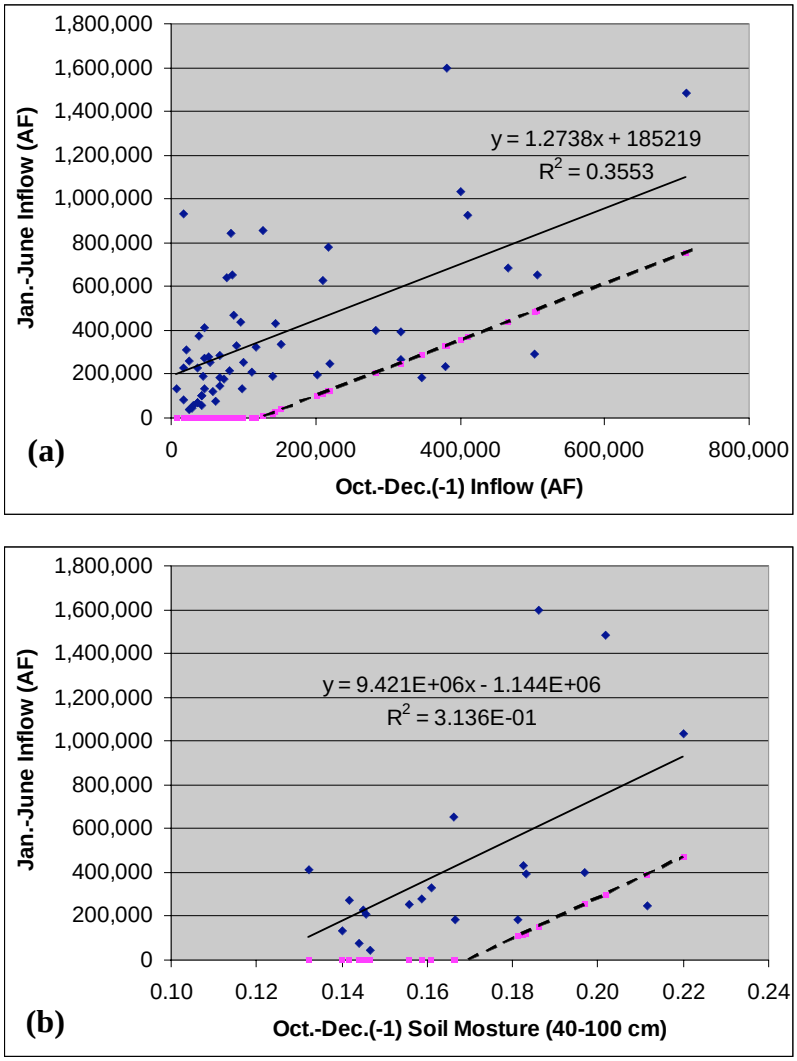


Figure 3. Regression-based forecast model for Jan.-June inflows based on (a) preceding flows and (b) preceding NARR soil moisture (40-100 cm). Solid line represents mean forecast; dashed line represents (approximate) 90%-exceedance probability forecast.

Table 1. Description of proposed verification statistics and tools.

Statistic	Description
Ensemble mean correlation coefficient	Correlation coefficient between the mean of the ensemble forecast and the observed value; a measure of resolution
Ensemble mean skill score	Scaled by variability in observations; a measure of resolution and reliability
Brier skill score	Can be applied to categorical events (i.e., high, medium, low); a measure of accuracy
Reliability diagram	Plot of the relative frequency of estimated non-exceedance probabilities of observations; if forecasts perfectly reliable, probabilities are uniformly distributed
Talagrand diagram	Plot of frequency of estimated non-exceedance probabilities of observations in different probability intervals; integral is consistent with the reliability diagram
Root-mean square value of deviation	Magnitude of deviation of the observed relative frequency of estimated non-exceedance probabilities from a uniform distribution; measure of reliability

Table 2. Soil moisture and streamflow correlation coefficients (*r*). Significance levels, based on one-tail Student's *t*-test (H_0: $r > 0$), are given in parentheses.

	Jan.-Mar. Flow	Jan.-June Flow
Oct.-Dec.(-1) Soil Moisture, 40-100 cm	0.518 (*0.0097*)	0.542 (*0.0068*)
Oct.-Dec.(-1) Aggregate Inflow	0.699 (*<0.001*)	0.596 (*<0.001*)

Table 3. Forecast model verification results. (1 AF = 1,233.5 m^3)

Predictor Variable	Reliability Level	Mean Contract (AF)	Mean Deficit (AF)	Verified Reliability
Oct.-Dec. Inflow	50%	144,142	63,011	0.508
	80%	53,919	16,382	0.915
	90%	30,311	8,063	0.932
	95%	16,372	3,370	0.966
Oct.-Dec. Soil Moisture	50%	217,790	95,012	0.450
	80%	62,498	15,944	0.850
	90%	23,478	6,481	0.950
	95%	9,410	1,626	0.950